

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-47 (Canceled).

48. (New) A gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types, said apparatus comprising:

decision means for deciding on whether data from at least one of said first and second communication networks has been delayed in arrival or lost; and

control means for performing control so that, if the result of said decision indicates that the data from at least one of said first and second communication networks has been delayed in arrival or lost, data for causing a destination terminal of transmission on the other communication network to execute error concealment processing is generated or data acquired is discarded.

49. (New) The gateway apparatus according to claim 48 wherein said first communication network is a line-switched network; and said second communication network is a packet-switched network; and wherein said apparatus comprises:

first decision means for deciding on whether encoded data from said line-switched network has been delayed in arrival or lost; and

first control means for performing control so that, if the result of said decision indicates that said encoded data has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on said packet-switched network to execute error concealment processing is generated or the encoded data acquired is discarded.

50. (New) The gateway apparatus according to claim 48, wherein said first communication network is a line-switched network; and said second communication network is a packet-switched network; and wherein said decision means comprises:

second decision means for deciding on whether encoded data from said packet-switched network have been delayed in arriving or lost; and

second control means for performing control so that, if the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on the side of said line-switched network to execute error concealment processing is generated, or the encoded data delayed in arrival is discarded.

51. (New) The gateway apparatus according to claim 49, wherein said decision means comprises:

second decision means for deciding on whether encoded data from said packet-switched network have been delayed in arriving or lost; and

second control means for performing control so that, if the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on the side of said line-switched network to execute error concealment processing is generated, or the encoded data delayed in arrival is discarded.

52. (New) A gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types, said apparatus comprising:

decision means for deciding on whether encoded data from at least one of said first and second communication networks has been delayed in arrival or lost;

control means for performing control so that, if the result of said decision indicates that the encoded data from at least one of said first and second communication networks has been delayed in arrival or lost, data is generated by error concealment processing, or data acquired is discarded;

decoding means for decoding encoded data from said at least one communication network, processed by said control means, and for outputting the resulting decoded data; and

encoding means for encoding the data obtained from said error concealment processing by said control means, and said decoded data, in accordance with an encoding

system different from the encoding system for said encoded data from said one communication network.

53. (New) The gateway apparatus according to claim 52, wherein said first communication network is a line-switched network; and wherein said second communication network is a packet-switched network; said apparatus comprising:

first decision means for deciding on whether the encoded data from said line-switched network have been delayed in arrival or lost;

first control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded;

first decoding means for decoding the encoded data from said line-switched network, as processed by said first control means, and for outputting the resulting decoded data; and

first encoding means for encoding the data obtained from said error concealment processing from said first control means and said decoded data from said first decoding means in accordance with an encoding system different from the encoding system for said encoded data from said line-switched network.

54. (New) The gateway apparatus according to claim 52, wherein said first communication network is a line-switched network; and said second communication network is a packet-switched network; and wherein said apparatus comprises:

second decision means for deciding on whether the encoded data from said packet-switched network have been delayed in arrival or lost;

second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded;

second decoding means for decoding the encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data; and

second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance with an encoding system different from the encoding system for said encoded data from said packet-switched network.

55. (New) The gateway apparatus according to claim 6, wherein said apparatus comprises:

second decision means for deciding on whether the encoded data from said packet-switched network have been delayed in arrival or lost;

second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded;

second decoding means for decoding the encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data; and

second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance with an encoding system different from the encoding system for said encoded data from said packet-switched network.

56. (New) A method for processing encoded data by a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types, said method comprising:

(a) a step of said gateway apparatus deciding on whether data from at least one of said first and second communication networks has been delayed in arriving or lost; and

(b) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired, in case the result of said decision indicates that data from at least one of said first and second communication networks has been delayed in arrival or lost.

57. (New) The method for processing encoded data by a gateway apparatus according to claim 56, wherein said first communication network is a line-switched network

and said second communication network is a packet-switched network; said method further comprising:

(a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost; and

(b1) a step of said gateway apparatus generating encoded data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that data from said line-switched network has been delayed in arrival or lost.

58. (New) The method for processing encoded data by a gateway apparatus according to claim 56, wherein said first communication network is a packet-switched network and said second communication network is a line-switched network; said method further comprising:

(a2) a step of said gateway apparatus deciding on whether encoded data from said packet-switched network has been delayed in arrival or lost; and

(b2) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said packet-switched network has been delayed in arrival or lost.

59. (New) The method for processing encoded data by a gateway apparatus according to claim 57, wherein said first communication network is a packet-switched network and said second communication network is a line-switched network; said method further comprising:

(a2) a step of said gateway apparatus deciding on whether encoded data from said packet-switched network has been delayed in arrival or lost; and

(b2) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said packet-switched network has been delayed in arrival or lost.

60. (New) A method for processing encoded data by a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types, comprising:

(a) a step of said gateway apparatus deciding on whether data from at least one of said first and second communication networks has been delayed in arriving or lost; and

(b) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data acquired in case the result of said decision indicates that data from at least one of said first and second communication networks has been delayed in arrival or lost;

(c) a step of said gateway apparatus decoding encoded data from said at least one communication network, processed in said step (b), and outputting decoded data; and

(d) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said one communication network and outputting the resulting data.

61. (New) The method for processing encoded data by a gateway apparatus according to claim 60, wherein said first communication network is a line-switched network; and

said second communication network is a packet-switched network; said method further comprising:

(a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost; and

(b1) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said line-switched network has been delayed in arriving or lost;

(c1) a step of said gateway apparatus decoding encoded data from said line-switched network, processed in said step (b1) and outputting the resulting decoded data; and

(d1) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system

different from that for encoded data from said line-switched network and outputting the resulting data.

62. (New) The method for processing encoded data by a gateway apparatus according to claim 60, wherein said first communication network is a line-switched network and said second communication network is a packet-switched network; said method further comprising:

(a2) a step of said gateway apparatus deciding on whether encoded data from said packet-switched network has been delayed in arrival or lost; and

(b2) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data delayed in arriving in case the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost;

(c2) a step of said gateway apparatus decoding encoded data from said packet-switched network, processed in said step (b2), and outputting the resulting decoded data; and

(d2) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said packet-switched network, and outputting the resulting data.

63. (New) A method for processing encoded data by a gateway apparatus for conducting connection between a line-switched network and a packet-switched network, wherein a data processing circuit for receiving and processing data output from a multiplexed data demultiplexing circuit demultiplexing multiplexed data from said line-switched network for outputting packet data via transmission circuit to said packet-switched network, includes:

(A1) a step of receiving and counting encoded data output from said multiplexed data demultiplexing circuit demultiplexing multiplexed data received from said line-switched network and comparing the number of the encoded data acquired per period with an expected value, that is, the number of encoded data expected to be output per period from said multiplexed data demultiplexing circuit;

(A2) a step of outputting, if the result of comparison indicates that the number of the encoded data acquired is equal to the number of said expected value, the encoded data received from said multiplexed data demultiplexing circuit;

outputting, if said result of comparison indicates that the number of the encoded data acquired is less than the number of said expected value, a generation request signal for generating data in deficit, along with said encoded data acquired; and

outputting, if said result of comparison indicates that the number of the encoded data acquired is greater than the number of said expected value, a discarding request signal for discarding the encoded data in excess, along with said encoded data acquired;

(A3) a step of outputting said encoded data unchanged if, as a result of decision of the above step (A2), only said encoded data has been output;

giving a command to create data in deficit if said generation request signal has been output; and

discarding, in case of receipt of said discarding request signal, a number of received encoded data indicated by the number indicated by said discarding request signal, and outputting the remaining portions of the encoded data;

(A4) a step of generating encoded data for causing a destination terminal of transmission to execute error concealment processing, in case said step (A3) has output a command for formulating data in deficit; and

(A5) a step of converting the encoded data output from said step (A3) or the encoded data for error concealment processing, output from said step (A4), into packet data, and outputting the resulting packet data to said transmission circuit.

64. (New) A method for processing encoded data by a gateway apparatus for conducting connection between a line-switched network and a packet-switched network, wherein a data processing circuit for receiving and processing data output from a multiplexed data demultiplexing circuit demultiplexing multiplexed data from said line-switched network for outputting packet data via transmission circuit to said packet-switched network, includes:

(A1) a step of receiving and counting encoded data output from said multiplexed data demultiplexing circuit demultiplexing multiplexed data received from said line-switched network and comparing the number of the encoded data acquired per period with an expected value, that is, the number of encoded data expected to be output per period from said multiplexed data demultiplexing circuit;

(A2) a step of outputting, if the result of comparison indicates that the number of the encoded data acquired is equal to the number of said expected value, the encoded data received from said multiplexed data demultiplexing circuit;

outputting, if said result of comparison indicates that the number of the encoded data acquired is less than the number of said expected value, a generation request signal for generating data in deficit, along with said encoded data acquired; and

outputting, if said result of comparison indicates that the number of the encoded data acquired is greater than the number of said expected value, a discarding request signal for discarding the encoded data in excess, along with said encoded data acquired;

(A3) a step of outputting said encoded data unchanged if, as a result of decision of the above step (A2), only said encoded data has been output;

giving a command to create data in deficit if said generation request signal has been output; and

discarding, in case of receipt of said discarding request signal, a number of received encoded data indicated by the number indicated by said discarding request signal, and outputting the remaining portions of the encoded data;

(A4) a step of generating encoded data for causing a destination terminal of transmission to execute error concealment processing, in case said step (A3) has output a command for formulating data in deficit; and

(A5) a step of converting the encoded data output from said step (A3) or the encoded data for error concealment processing, output from said step (A4), into packet data, and outputting the resulting packet data to said transmission circuit

65. (New) A method for processing encoded data by a gateway apparatus for conducting connection between a line-switched network and a packet-switched network, wherein a data processing circuit for receiving packet data from a receiving circuit receiving packet data from said packet-switched network, for extracting encoded data and for outputting the encoded data extracted, to said line-switched network via a data multiplexing circuit, includes:

(B1) a step of making a trial to get packet data from said receiving circuit at a time moment of receipt of a processing start request signal output from a timer at a preset period,

or a re-acquisition request signal, extracting encoded data from said packet data if said attempt of acquiring packet data from said receiving circuit has met with success, and outputting a signal to the effect that packet data has failed to be acquired if said trial has failed;

(B2) a step of outputting a generation request signal for having a terminal of the destination of the line-switched network execute error concealment processing in case a signal to the effect that packet data has failed to be acquired has been output from said encoding data extracting processing of said step (B1), outputting the encoded data received from said encoded data extracting processing, if encoded data has been output from said encoded data extracting processing and no generation request signal has been output right before, outputting, if the result of decision for the present indicates that said generation request signal has been output and the encoded data output from the encoded data extracting circuit processing is the encoded data which should be processed at an output timing of said generation request signal, a discarding request signal, along with said encoded data, said discarding request signal indicating that said encoded data shall be discarded, and outputting a re-acquisition request signal for requesting again encoded data to said encoded data extracting processing;

(B3) a step of outputting, if encoded data only has been output from said step (B2), said encoded data output;

issuing a command to execute encoded data extracting processing if the generation request signal has been output from said step (B2), and

deleting only relevant portions of said encoded data if the discarding request signal has been output from said step (B2), and outputting remaining portions of the encoded data;

(B4) a step of generating encoded data needed for a destination terminal of transmission on the line-switched network to execute error concealment processing; and

(B5) a step of sending the encoded data, output from said step (B3), or the encoded data, output from said step (B4), via said multiplexed data demultiplexing circuit to said line-switched network.

66. (New) A method for processing encoded data by a gateway apparatus for conducting connection between a line-switched network and a packet-switched network and

re-encoding input encoded data in accordance with another encoding system to output the resulting re-encoded data, wherein

a data processing circuit packetizing data obtained on re-encoding encoded data of the first encoding system, demultiplexed by said multiplexed data demultiplexing circuit, in accordance with another encoding system, and outputting the resulting packetized data via a transmission circuit to said packet-switched network, includes:

(A1) a step of receiving and counting encoded data output from said multiplexed data demultiplexing circuit and comparing the number of the encoded data acquired per period with an expected value, that is, the number of encoded data expected to be output per period from said multiplexed data demultiplexing circuit,

(A2) a step of outputting, if the result of comparison indicates that the number of the encoded data acquired is equal to the number of said expected value, the encoded data received from said multiplexed data demultiplexing circuit;

outputting, if said result of comparison indicates that the number of the encoded data acquired is less than the number of said expected value, a generation request signal for generating data in deficit; and

outputting, if said result of comparison indicates that the number of the encoded data acquired is greater than the number of said expected value, a discarding request signal for discarding the encoded data in excess;

(A3) a step of outputting said encoded data if, as a result of decision of the step (A2), only said encoded data has been output;

giving a command to create data in deficit if said generation request signal has been output from said step (A2); and

discarding, in case of receipt of said discarding request signal from said step (A2), a number of received encoded data corresponding to the number indicated by said discarding request signal, and outputting the remaining portions of the encoded data;

(A4) a step of decoding the encoded data output from said step (A3) and outputting the resulting decoded step; a step of

(A5) a step of outputting encoded data of an amount indicated by said generation request signal, said encoded data generated by error concealment processing, based on a command output from said step (A3);

(A6) a step of encoding the decoded data generated by said step (A4) or the data generated in said step (A5), in accordance with said second encoding system, to output resulting data; and

(A7) a step of converting the data, encoded with said second encoding system, into packet data and outputting the resulting packet data to said transmission circuit.

67. (New) A method for processing encoded data by a gateway apparatus for conducting connection between a line-switched network and a packet-switched network and re-encoding input encoded data in accordance with another encoding system to output the resulting re-encoded data, wherein

a data processing circuit receiving packet data from a receiving circuit receiving packet data from said packet-switched network, extracting encoded data encoded in accordance with a second encoding system, re-encoding the extracted encoded data with a second encoding system, and outputting the resulting re-encoded data via data multiplexing circuit to said line-switched network, includes:

(B1) a step making a trial to get packet data from said receiving circuit at a time moment of receipt of a processing start request signal from a timer circuit, or of a re-acquisition request signal entered, and extracting the encoded data, encoded in accordance with said second encoding system, from said packet data, if said trial has met with success, and outputting a signal to the effect that packet data has failed to be acquired, if the trial of acquiring packet data from said receiving circuit has failed, by way of executing encoded data extracting processing;

(B2) a step of outputting a generation request signal for causing a destination terminal of transmission of the line-switched network to execute error concealment processing in case an signal to the effect that packet data has failed to be acquired is output from said encoded data extraction processing of said step (B1);

receiving the encoded data output from said encoded data extraction processing and outputting said encoded data received from said encoded data extracting processing if said encoded data extraction processing has failed to output said generation request signal right before; and

outputting, if the result of previous decision indicates that the generation request signal has already been output from said encoded data extracting processing and the encoded data output from said encoded data extracting processing for the present is the encoded data which should be processed at an output timing of said generation request signal, said encoded signal and, together therewith, a discarding request signal indicating that said encoded data shall be discarded, and outputting a re-acquisition request signal for requesting again the encoded data to said encoded data extracting processing;

(B3) a step of outputting, if said encoded data only is output from said step (B2), said encoded data output;

issuing a command for executing error concealment processing if said generation request signal is output from said step (B2), and

deleting relevant portions of the encoded data output, as the remaining portions of the encoded data is output, in case the discarding request signal has been output from said step (B2);

(B4) a step of outputting data by error concealment processing based on a command from said step (B3);

(B5) a step of decoding the encoded data output from the step (B3) to output the resulting decoded data;

(B6) a second encoding step of encoding the decoded data from said step (B5) or the data obtained by said error concealment processing of said step (B4) in accordance with the first encoding system on the destination of transmission, and outputting the resulting encoded data; and

(B7) a step of sending the encoded data of said first encoding system via said data multiplexing circuit to said line-switched network.

68. (New) A method for processing encoded data from at least one communication network out of a line-switched network and a packet-switched network to the other communication network in a gateway system conducting connection between said line-switched network and said packet-switched network of respective different types, said method comprising:

in case encoded data from at least one of said line-switched network and the packet-switched network has been delayed in arriving or lost, performing processing for generating data for causing a destination terminal of transmission on the other communication network to execute error concealment processing, or discarding the encoded data acquired to send said encoded data.

69. (New) A gateway apparatus for conducting connection between a line-switched network and a packet-switched network, comprising:

a controller which compares the number of encoded data actually acquired in a preset period from said line-switched network, with an expected value, that is, the number of encoded data expected to be acquired in said period, generates encoded data, if the result of comparison indicates that the number of the encoded data actually acquired is less than said expected value, and which discards excess portions of the encoded data acquired if the result of comparison indicates that the number of the encoded data actually acquired is greater than said expected value, such that a number of the encoded data equal to said expected value per period are packetized, for performing control to maintain constant the number of the packet data sent to said packet-switched network per period.

70. (New) A gateway apparatus for connecting a packet-switched network and a line-switched network, comprising:

an encoding data extracting unit which, if packets are not received from said packet-switched network at a preset period such that packet delay has been produced, and encoded data are to be extracted from packet data received, outputs a signal to the effect that packet data has failed to be acquired; and

a controller which generates or discards encoded data based on an output from said encoding data extracting unit to perform control for outputting encoded data to said line-switched network.